

C l a i m s

1. Tank for storing cryogenic fluids, comprising a tank (11) having a base plate (12), a vertical wall (14) and preferably an upper top (15), the tank (11) being provided with a fluid tight barrier (26) preventing the stored fluids from escaping out of the tank (11), the fluid tight barrier (26) preferably being formed of thin, joined metal plates,
characterized in that the vertical wall (14) comprises an inner structurally supporting wall element (24), an outer structurally supporting wall element (25) and that the fluid tight barrier (26) is arranged between the inner (24) and the outer (25) structurally supporting wall elements, the structurally supporting wall elements (24,25) and the intermediate fluid tight barrier (26) together forming a compact, structurally integrated and fluid tight wall (14).
2. Tank according to claim 1,
characterized in that the inner structurally supporting wall element (24) is formed by multi-axially prestressed concrete.
3. Tank according to claim 1,
characterized in that the outer structurally supporting wall element (25) is formed by multi-axially prestressed concrete.
4. Tank according to claim 1,
characterized in that the intermediate fluid tight barrier (26) is made of a ductile material, such as Ni-steel.
5. Tank according to claim 1,
characterized in that the intermediate fluid tight barrier (26) is made of joined metal plates.

6. Tank according to claim 5,
characterized in that the edges of the metal
plates are bent upwards and folded.

7. Tank according to claim 5 or 6,
characterized in that the edges of the metal
plates are welded together.

8. Tank according to claim 9,
characterized in that the edges of the metal
plates overlap each other partly and are glued together, or
pressed together to form a tight membrane.

9. Tank according to claim 1-9, where the tank (11) is
provided with a fluid tight base plate (23) formed by
metal, the base plate (23) resting movable on a support
(21,22) and where the vertical wall (14) is made of
concrete,

characterized in that the vertical wall
element (14) at its lower end is terminated by means of a
horizontal metal plate (27) and an inner (29) and an outer
(28) vertical steel plate extending along the inner and
outer circumference of the vertical wall (14), the vertical
steel plates (28,29) being welded to the horizontal base
plate (27).

10. Tank according to claim 9,
characterized in that the horizontal (27) and
the vertical plates (28,29) form an integrated unit
together with the lower part of the vertical concrete wall
(14).

11. Tank according to claim 9 or 10,
characterized in that the lower end of the
membrane (26) is welded to the horizontal steel plate (27),
forming a tight joint between the horizontal (23) and the
vertical (26) fluid tight barrier.

12. Tank according to claim 1,
characterized in that the inner structural
supporting wall element (24) is formed by wood.

13. Tank according to claim 1,
characterized in that the outer structural
supporting wall element (25) is made of wood.

14. Tank according to claim 1,
characterized in that the intermediate fluid
tight barrier (26) is formed by sheets of plastic
materials, welded together along their edges.

15. Method for constructing a fluid tight tank (11) for
storage of fluids, comprising a base portion (12), a
vertical wall part (14) of concrete and preferably an upper
top (15), the base portion (12) being constructed first
whereupon the vertical wall part (14) is constructed,
preferably by means of slipforming or jumpforming,
characterized in that the vertical wall (14),
comprising an inner structurally supporting wall element
(24), an outer structurally supporting wall element (25)
and an intermediate fluid tight barrier (26), together
forming a compact structural supporting fluid tight wall
element (14), is reinforced and concreted at least partly,
whereupon the fluid tight barrier (26) is arranged on the
exterior of the concreted inner structurally supporting
wall element (24) whereupon the outer structurally
supporting wall structure (25) is reinforced and concreted.

16. Method according to claim 15,
characterized in that the lower part of the
wall (14) is erected on a base, said lower part (14)
comprising a base plate (27) of steel, an inner (29) and
outer (28) steel plate extending along the inner and outer
circumference of the lower part of the wall (14) and
further is welded to the horizontal base plate (27) and
where the lower end of the fluid tight membrane (26) in the
form of steel plates also is welded to the horizontal base

plate (27), whereupon this portion of the wall is reinforced and concreted.

17. Method according to claim 16,
characterized in that the inner structurally supporting wall element (24) is erected at least partly up to a level prior to starting the process of installing the intermediate fluid tight barrier (26).

18. Method according to claim 17,
characterized in that the intermediate fluid tight barrier (26) is installed at least to a certain height before starting the process of reinforcing and concreting the outer structurally supporting wall (25).